

REMARKS

This Amendment is submitted in response to the Office Action dated December 5, 2003, having a shortened statutory period set to expire March 5, 2004. In the present Amendment, Claims 1, 6, 11, 16 and 21 are amended and Claims 23-24 are added. Claims 1-9 and 11-24 are now pending.

Applicants note with appreciation that Claim 22 has been allowed. New Claims 23 and 24 incorporate the allowed features of Claim 22 in respective method and computer program product claims, and thus should also be allowed.

REJECTIONS UNDER 35 U.S.C. § 102 and 103

In paragraph 4 of the present office action, the Examiner has rejected Claims 1, 6, 11, 16 and 21 under 35 U.S.C. § 102(e) as being anticipated by Voigt et al. (U.S. Patent No. 6,055,604 – “*Voigt*”). In paragraph 6 of the present office action, the Examiner has rejected Claims 2, 7, 12 and 17 under 35 U.S.C. § 103(a) as being unpatentable over *Voigt* in view of Blumenau (U.S. Patent No. 6,151,665 – “*Blumenau*”). In paragraph 7 of the present office action, the Examiner has rejected Claims 1, 6, 11, 16 and 21 under 35 U.S.C. § 103(a) as being unpatentable over Ohran (U.S. Patent No. 6,397,307 B2 – “*Ohran*”) in view of Burkes et al. (U.S. Patent No. 5,542,065 – “*Burkes*”). In paragraph 8 of the present office action, the Examiner has rejected Claims 2, 7, 12 and 17 under 35 U.S.C. § 103(a) as being unpatentable over *Ohran* in view of *Burkes* and further in view of *Blumenau*. Applicants respectfully traverse these rejections.

With regards to exemplary Claim 1, the cited prior art does not teach or suggest “detecting a memory exhaustion condition in said first region of physical memory while said second region of physical memory is mirroring at least part of said first region” and then responsively “deactivating memory mirroring between said first and second regions” in order to augment “said first region with at least part of said second region, such that said memory exhaustion condition is eliminated.” That is, the cited prior art does not teach or suggest reallocating space in a second region of physical memory, which space was being used to mirror data in the first region, to expand the storage capacity of the memory.

With regards to the Section 102 rejections, *Voigt* teaches two NVRAMs 21, which are mirror (each being a backup of the other) copies of transaction logs. When a page of the log reaches a page-full status, then the page is stored to a disk log on a disk in a RAID (*Voigt* col. 2, lines 3-11). The disk log (or the disk itself) does not mirror the transaction log. Periodically storing a copy of a file (transaction log) to another location (disk log) is not mirroring. As defined in the "IBM Dictionary of Computing," the term "mirroring" means "the process of writing the same data to two disk units within the same auxiliary storage pool at the same time" (copy attached, emphasis added). There is no teaching or suggestion in *Voigt* that the disk log mirrors the transaction log, and thus there is no teaching or suggestion that "said second region of physical memory is mirroring at least part of said first region" of physical memory. Therefore, the Section 102 rejections should be withdrawn.

With regards to the Section 103 rejections, *Ohran* teaches RAID Level 1 disk mirroring. *Burkes* teaches converting space on a disk used for another RAID Level (such as use for a parity bit in a RAID Level 5 system) to one used for mirroring (RAID Level 1). There is no teaching or suggestion of a physical memory overflowing and commandeering space previously used by its mirror copy. That is, there is no teaching or suggestion of "deactivating memory mirroring" in the second region and "augmenting said first region with at least part of said second region." Thus, the Section 103 rejections should be withdrawn.

CONCLUSION

As the cited prior art does not teach or suggest all of the limitations of all pending claims, Applicants respectfully request a Notice of Allowance for all pending claims.

The present amendment adds two new independent claims, for which a fee of \$168.00 is due. Please charge this fee to **IBM CORPORATION Deposit Account No. 50-0563**.

No extension of time for this response is believed to be necessary. However, in the event an extension of time is required, that extension of time is hereby requested. Please charge any fee associated with an extension of time as well as any other fee necessary to further the prosecution of this application to **IBM CORPORATION Deposit Account No. 50-0563**.

Respectfully submitted,



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minor control field In a sorting operation, any control field that is of less significance than the major control field.

minor device number In the AIX operating system, a number that specifies various types of information about a particular device; for example, a number that distinguishes between several printers of same type. See major device number.

minor node In VTAM, a uniquely defined resource within a major node. See also major node.

minor tick In the AS/400 Business Graphics Utility, one of the marks located between major ticks on an axis of a chart. See also major tick.

minor time slice In TSO, the time within a major time slice when a terminal job has the highest priority for execution. See also major time slice.

minor total The result obtained when a summation is terminated by the least significant change of group.

minuend In subtraction, the number or quantity from which another number or quantity is subtracted. (T) (A)

Note: Minuend - subtrahend = result.

MIOCB Master I/O control block.

MIPS Millions of instructions per second. A unit of measure of processing performance equal to one million instructions per second. (T)

mirrored pair Two units that contain the same data and are referred to by the system as one entity.

mirrored protection In the AS/400 system, a function that protects data by duplicating all disk data in an auxiliary storage pool (ASP) to another disk unit (mirrored unit) in the same ASP. If a disk failure occurs, the system keeps running, using the mirrored unit of the mirrored pair until the disk unit is repaired or replaced. See also mirrored pair, mirrored unit.

mirrored unit In the AS/400 system, one of the units of a mirrored pair of units.

mirror image In a document copying machine, an image that has its parts positioned as if the original were viewed in a mirror. (T) Contrast with right-reading image.

mirroring (1) In computer graphics, turning all or part of a display image 180 degrees about an axis in the plane of the display surface. (T) See Figure 97. (2) In the AS/400 system, the process of writing the same data to two disk units within the same auxiliary

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missing pulse A pulse whose level cannot be recorded. (T) (A)
mistake (1) A human action that produces a desired result. (T) (2) Contrast with error fault.
mix In multimedia applications, the combination of audio or video sources during postproduction.

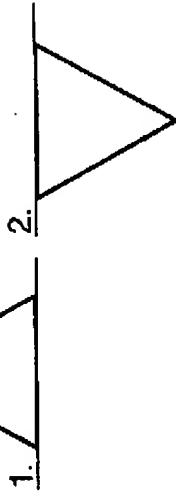


Figure 97. Mirroring

mirror transaction In CICS/VS, a transaction program that executes a request sent to it from another transaction processing system, and returns to the originating transaction processing system a response code and any control fields and data associated with the request. The mirror transaction enables CICS/VS transaction processing systems to perform remote resource access.

MIS Management information system. (A)

misellaneous data record (MDR) A record of a network hardware error recorded by the NCP and sent to the VTAM host that owns the failing component. Then the VTAM program writes the error on the operating system error data set.

misellaneous intercept In Bell System leased telephone message-switching systems, the art of intercepting single-address messages containing a nonvalid call directing code or intercepting multiple-address messages without a proper multiple-address code. See also willful intercept.

misellaneous time That part of operating time that is not system production time, system test time, or run time. Miscellaneous time is typically used for demonstrations, operator training, or other such purposes. Synonymous with incidental time. (T)

missing-interrupt handler (MIH) An MVS and MVS/XTA facility that keeps track of I/O interrupts, informing the operator and creating a record whenever an expected interrupt fails to occur in a preset time interval.

missing page interruption Synonym for Page fault.

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mixed-base numeration system A numeration system in which a number is represented as the sum of terms each of which consists of a given term being the product of a base, the base of a given term being such that may be grouped and purchased, often at count price; for example, \$0.50 items that purchased in a mixture at 3 for \$1.39.

mixed-base notation Synonym for mixed-base numeration system.

mixed-base numeration system A numeration system in which a number is represented as the sum of terms each of which consists of a given application but the bases being such that are not necessarily integral ratios between the bases, b₁, b₂, ..., b_n, and the number is given by $b_1b_2 + b_2b_3 + \dots + b_nb_1$. A mixed-base numeration system is the particular case of a base numeration system in which the terms are ordered so that their bases are in descending magnitudes, there is an integral ratio between the adjacent terms, but not the same ratio in each thus, if the smallest base is b and if x and y integers, the numeral 654 in such a numeration system given by $6yb_3 + 5b_2 + 4b_1$. A mixed-radix numeration system is the particular case of a mixed-base numeration system in which the terms are ordered so that their bases are in descending magnitudes, there is the same integral ratio between the bases of all pairs of adjacent terms; thus if x represents the number given by $6yb_3 + 5b_2 + 4b_1$ (T) (A) synonymous with mixed-base notation.

mixed chart In GDDBM, the combination of one type of chart in a business chart example, the overlaying of a line chart on a bar chart.

mixed data set In DP CX, a data set predicate DP CX whose indexes are contained in system and whose records are contained in user space mixed data sets are the print data set, page set, transaction data set, transmit data set, p-set, message data set, RJE data set, and other data set.

mixed data string In SQL, a character string that contains both single-byte and double-byte character